

adhering to the antler at the time when I undertook to clear away the sandstone with which they were all partially covered up.

The fragment (fig. 4) consisting of one of the occipital condyles of a large ruminant, was obtained afterwards from the same person who brought the others, and who stated that he had found it in the same spot. I purpose availing myself of the first opportunity of visiting this pass, where, from the admirable state of preservation of these specimens, I hope to meet with others equally perfect.

The axis (fig. 1) must have belonged to a very large ruminant, being in linear dimension about double the size of the corresponding bone of the common bullock of Hindustán. But supposing it to have belonged to our elk, it would appear that this individual at least did not in size equal the elk, of which the remains have been found in Europe.

Besides the specimens represented in the plate, there are in the Dadupur collection, many fragments of bones, more or less perfect, of gigantic ruminants: amongst others, cervical vertebræ, far exceeding in size that represented in fig. 2.

Another year will, I hope, give us a more perfect acquaintance with the former possessors of these huge fragments; in the mean time, it may be worth while to note the discovery of the first undoubted remains of the elk, as I am not aware that this animal has been hitherto found in a fossil state in India.

*Dadupur, June 9th, 1835.*

---

VII.—*Note on the Vegetable Impressions in Agates. By Mr. J. STEPHENSON.*

[In a letter to the Editor.]

A few of the scientific gentlemen of Calcutta, who have seen specimens of my collection of agates from the Sone river, having imbedded the organic remains of plants, have doubted the existence of such remains; asserting (agreeable to the old notion), that the appearances are caused by *metallic oxides, merely assuming arborescent forms*, I am well aware, that long cherished opinions are difficult to eradicate, and most people are tenacious of parting with what they have hugged as truths for half a century. I well remember when Sir HUMPHREY DAVY explained LAVOISIER'S beautiful theory of combustion, that a good many of my contemporaries would not be convinced, though demonstration stared them in the face; and it was only after years of argument, that they were compelled, at last, to embrace the new and

splendid discovery. My object in this communication is, to convince those who doubt the existence of organic remains in *agates* from the Sone river, or elsewhere. I therefore beg leave to refer them to the following passages in Dr. URE's Dictionary of Chemistry, published about fifteen years ago, which, in my humble opinion, establishes my point.

“ These curious appearances (meaning the organic remains of plants) were ascribed to deposits of iron or manganese; but more lately they have been thought to arise from mineralized plants of the cryptogamous class.” And again, “ Dr. McCULLOCH has recently detected what DAUBENTON merely conjectured, in *mocha stone* and *moss agates*, aquatic confervæ, unaltered both in colour and form, and also coated with iron oxide. Mosses and lichens have also been observed along with chlorite, in vegetations. An onyx agate, set in a ring, belonging to the Earl of Powis, contains the chrysalis of a moth.” I am also of opinion, that the arborescent appearance termed *Dendrites* in our magnesian limestone, and flag sand-stone, are the remains of mosses and lichens. I have several times tested the substance, but could only detect *carbon*, which certainly indicates their vegetable origin. I doubt not when they are effectually examined, but they will turn out to be the remains of vegetation.”

The beautiful specimens from the sandstone of *Chunar* afford an excellent opportunity to those who may wish to set the matter at rest, and I must here remark, that you, as Secretary of the Asiatic Society of Calcutta, might easily accomplish the desired examination.

I also have another reason for troubling you with this communication. If the appearances in the *agates* are not the remains of plants, I have in that case asserted a *falsehood* in my advertisement, published in No. 39 of your Journal. However, with such authorities as the above mentioned, I need not fear again to assert, that the appearances in my *agates* are the real organic remains of aqueous plants, in a state of preservation not exceeded by any previous discovery, and altogether (as a collection), *unique*.

Dr. URE's Geology affords further proofs to strengthen my original opinion, that the appearances in my *agates* are truly the remains of plants; the passage runs thus:

“ If any further evidence of the aqueous origin of chalcedonies and *agates* were wanted, it has been afforded by Dr. McCULLOCH in an ingenious paper on the vegetable remains preserved in these siliceous minerals, published in the 3rd volume of the Transactions of the Geological Society. It is there shown that the mode in which the delicate vegetables thus become involved is perfectly simple, and consistent with the production of chalcedony. But we must distinguish their real causes, from pseudo specimens of black arborizations, produced by the oxides of manganese and iron, or by chlorite.

“ When real confervæ are present, the vegetable form is so perfectly preserved that the plant seems to float freely as if in its liquid element. Even the green often retains its lively hue.

Fossil Elk from the Sub-Himalayas.  
 $\frac{1}{3}^{\text{rd}}$  Nat. Size.



fig. 1.

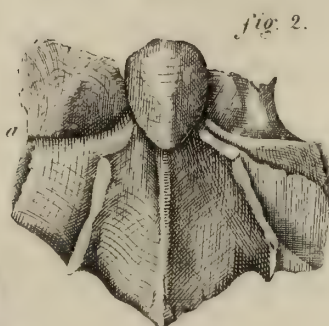
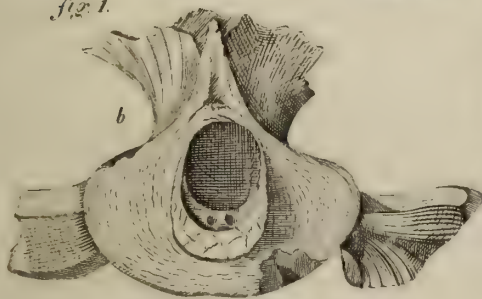
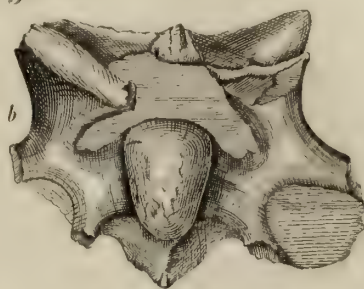


fig. 2.

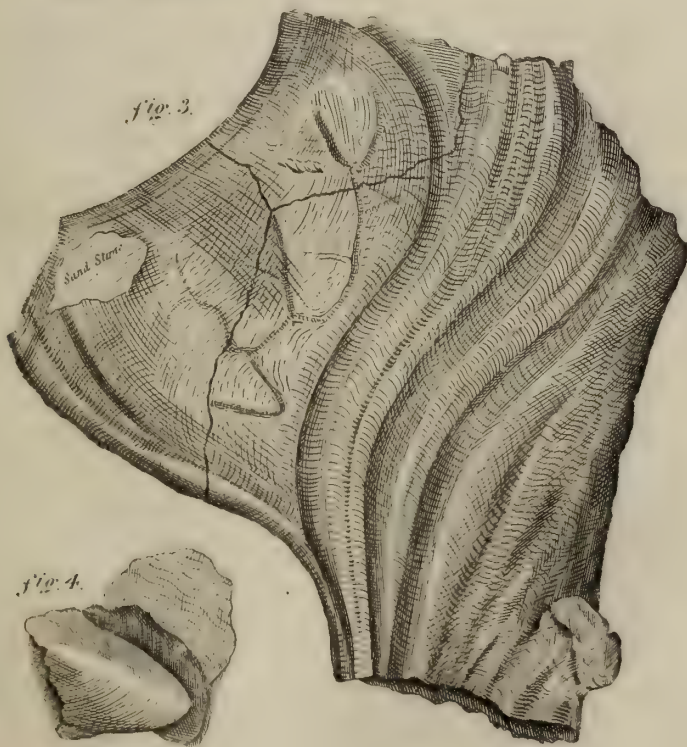


fig. 3.

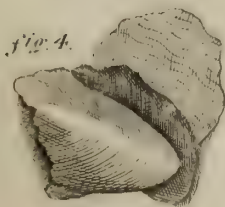


fig. 4.

Scale of Inches.

